

based oxygen absorber serves to activate and dramatically increase the rate of oxygen uptake of the iron inside the packet. Page 6, lines 29-31 of the application. As shown in FIGS. 9-11 of the application and on pages 9-10 of the application, small water injections (less than approximately 1.0 ml) are preferred.

The present invention as claimed differs from Aswell in its ability to reduce the oxygen concentration from 2 vol. % to below 0.5 vol. % in a modified atmosphere package at 34 degrees Fahrenheit at a very fast rate. This increased rate is brought about by the addition of specific amounts of an oxygen accelerator comprising water to the iron-based oxygen absorber immediately before use of the oxygen scavenging packet. FIG. 11 of the present application shows that by practicing the claimed invention, two commercially-available packets injected with the claimed amount of accelerator of capable of reducing the oxygen level in a quart-sized jar from about 2 volume percent oxygen to nearly 0 volume percent oxygen in about 90 minutes.

As noted in previous responses, Aswell does not teach the claimed ratios of absorber to accelerator and therefore does not teach the unexpected results and benefits and speed of reduction of oxygen levels as seen by the use of these ratios. In contrast, Aswell teaches that "water should be added to the composition at a level of about 60 to about 80 percent of the weight of the oxygen reactive composition." Aswell, col. 4, lines 53-56. Aswell also teaches that the oxygen reactive composition contains from about 4.5 to about 6.0 grams (col. 4, lines 32-34) and that the amount of iron in the oxygen reactive composition is from about 25 to about 35 percent. Aswell, col. 4, lines 15-16. The calculation using these numbers shows that the amount of water to be used per gram of iron is approximately 10 times that of the claimed invention.

The Declaration of Susan P. Evans under 37 C.F.R. § 1.132 ("Evans Declaration") is submitted herewith and provides clear evidence that the present invention, specifically reducing the oxygen content from 2 vol. % to less than 0.5 vol. % at a temperature of about 34 F in no more than 90 minutes, would not have been obvious in view of the teachings of Aswell.

The levels of iron and water present in Aswell, if used in the Applicant's system, would not provide a similar reduction in oxygen content. The Declaration reports the results of experiments in which the conditions and specifications (including the amount of water used) of Aswell were duplicated in the same type of bag to determine the amount of oxygen content reduction, if any. In fact, experiments using conditions from Aswell, as described in detail below, were not even able to achieve a reduction in oxygen to a level of 2 vol. % oxygen.

During experimentation, several quart jars were tested at room temperature with an ambient atmosphere of 20.9 vol. % oxygen. One MRM-200 (weighing approximately 10g) sachet was activated with liquid (either 5% Acetic Acid (100% vinegar) or water) and placed in the quart jar. The lid was tightly closed and allowed to sit for 60 minutes. The lid of the quart jar had a 1/8" hole drilled into it to allow a reading to be taken from the quart jar using an oxygen sensor. A piece of septum was placed over the hole to ensure that there was no gas exchange between the jar and the outside environment. At the end of the sixty minutes, a reading of percent oxygen and percent carbon dioxide was taken from the jar and recorded. This procedure was repeated for three runs for each of the following activators: 1.0 ml of 5 % Acetic Acid (100% vinegar) and 1.2, 6.5 and 12 ml of water. Evans Declaration at ¶ 5.

As stated in the Evans Declaration, the results of the testing referred to above indicate that the amount of liquid present significantly affects the amount of oxygen within the jar.

Specifically, as the amount of water increases to the level of that used in Aswell (Aswell contains 60-80% water relative to the weight of the oxygen reactive material, the experiments using 6.5 and 12 ml water in this experiment used at least the level of water present in Aswell), the reaction becomes impractical to continue because a very small amount of oxygen is actually being removed from the system. Basic scientific laws indicate that this reaction would be even slower (*i.e.*, less oxygen would be absorbed) at lower temperatures. Using the temperature and the amount of water, in accordance with the levels in Aswell, would not permit one to predict the temperature and the amount of water required to reduce the amount of oxygen to less than 0.5 vol. %, as disclosed and claimed in the present application. Evans Declaration at ¶ 7.

Further testing, at 72 degrees Fahrenheit, of MRM-200 (using 1 ml of vinegar) packets and TRM-5.5 (using 1.3-1.4 ml water) sachets resulted in the MRM packet reaching 4 vol. % oxygen while the TRM only being able to reach 11 vol. % oxygen. Similarly, the MRM reached 9.6 vol. % oxygen and the TRM was only able to achieve approximately 15.2 vol. % oxygen at 34 degrees Fahrenheit. Thus, the rate of absorption of oxygen between 21 vol. % and 2 vol. % at room conditions does not correspond with the rate of oxygen absorption between 2 vol. % and 0 vol. % at low temperatures. Evans Declaration at ¶ 8-9. Thus, the material disclosed by Aswell (the data achieved at a rate of oxygen between 21 vol. % oxygen and 2 vol. % oxygen) does not anticipate or render obvious to one of ordinary skill in the art the approach of the present invention wherein the rate of oxygen can be reduced much below 2% oxygen with a much smaller volume of water than that used in Aswell.

Furthermore, the water used in the present invention will activate and accelerate iron-based oxygen absorbers via the presence of hydronium ions in the water. In contrast, the

water disclosed in the Aswell patent dissolves a portion or all of the acid and is used as a dispersive and wetting surfactant. Furthermore, Aswell uses a filler at a level of 40-60% (Aswell, col. 4, ll. 17-18). Aswell indicates that the filler absorbs the water (present at a level of between 60-80% of the weight of the oxygen reactive composition) through a tea-bag type object or other device. Aswell does not inject the water (the oxygen uptake accelerator) directly into the oxygen scavenging packet to increase the rate of oxygen absorption as performed in the present invention.

The mere fact that references can be modified does not render the resultant modification obvious unless the prior art also suggests the desirability of the modification. *In re Mills*, 916 F.2d 680 (Fed. Cir. 1990); MPEP § 2143.01. Aswell did not mention or discuss the inventions claimed in the present application. Furthermore, even though modifications of the disclosures of Aswell may have been within the ordinary skill in the art, a *prima facie* case of obviousness is not met without some objective reason to go beyond the objective teachings of the reference. *See Ex parte Levengood*, 28 U.S.P.Q. 2d 1300 (Bd. Pat. App. Inter. 1993). MPEP § 2143.01. Finally, the Declaration proves that the concentrations and amounts of the elements present in Aswell do not work in the system of the present invention. Simply put, the process of the present invention, that allegedly may have been obvious to try, does not lead to an obvious result, especially without any teaching or suggestion in Aswell to indicate that the teachings and results of the present invention would have been obvious.

As discussed above and for the aforementioned reasons, the claims of the present invention are distinguished from the prior art. Therefore, in view of the discussion above, Applicants respectfully submit that all the claims presented in this application are allowable

over the cited references of record. Examiner is invited to call the undersigned to discuss any other issues that may need to be resolved.

The Commissioner is hereby authorized to charge Deposit Account No. 10-0447 (Order No. 47097-00716USC2) for any additional fees inadvertently omitted (except for the issue fee) that may be necessary now or during the pendency of this application.

Respectfully submitted,

  
Matthew O. Brady  
Reg. No. 44,554  
Attorney for Applicant

JENKENS & GILCHRIST  
1445 Ross Avenue  
Suite 3200  
Dallas, Texas 75202-2799  
(312) 744-0090

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